## AMENDMENTS TO THE CLAIMS

*The following is a complete listing of revised claims with a status identifier*

*in parenthesis.*

### LISTING OF CLAIMS

1. (Currently Amended) An interlaced-to-progressive conversion method,
comprising:

selectively performing, by an interlaced-to-progressive (IPC) converter,
one of at least two interlaced-to-progressive conversion (IPC) techniques on
input interlaced scan data based on a received control command; wherein

the received control command indicates to perform ~~one of at least~~ a
spatial interpolation IPC technique when a current field of the input
interlaced scan data is one of preceded and followed by a field of a same
type~~and a spatial/temporal interpolation IPC technique generating at~~
~~least one scan line including spatio-temporal pixel values, each spatio-~~
~~temporal pixel value being a combination of a spatially interpolated pixel~~
~~value and a temporally interpolated pixel value,~~ and

the received control command indicates to perform a
spatial/temporal interpolation IPC technique when the input interlaced
scan data is field based interlaced scan data.

2. (Canceled).

3. (Currently Amended) The method of claim [[1]] 32, wherein

the spatial interpolation IPC technique performs spatial interpolation on [[a]] the current field of the input interlaced scan data to produce a field of complementary scan data that together with the current field represents a frame of progressive scan data; and

the spatial/temporal interpolation IPC technique performs directionally adaptive spatial interpolation selectively combined with temporal interpolation using the current field, at least one previous field and at least one subsequent field of the input interlaced scan data to produce [[a]] the field of complementary scan data that together with the current field represents [[a]] the frame of progressive scan data.

4. (Currently Amended) The method of claim [[1]] 32, wherein the spatial/temporal interpolation IPC technique is adaptive.

5. (Currently Amended) The method of claim [[1]] 32, further comprising:

generating the control command to indicate the spatial interpolation technique when [[a]] the current field of the input interlaced scan data is one of preceded and followed by [[a]] the field of [[a]] the same type; and

generating the control command to indicate the spatial/temporal interpolation IPC conversion technique when the input interlaced scan data is field based interlaced scan data.

6. (Currently Amended)  An interlaced-to-progressive conversion method, comprising:

selectively performing, by an interlaced-to-progressive (IPC) converter, ~~one of at least two~~ one of a plurality of interlaced-to-progressive conversion (IPC) techniques on input interlaced scan data ~~based~~ according to [[on]] a received control command; wherein

~~the control command indicates to perform one of at least a spatial interpolation IPC technique, an alternative field output IPC technique in which two consecutive fields of the input interlaced scan data are alternately output on a scan line by scan line basis to produce a frame of progressive scan data, and a spatial/temporal interpolation IPC technique generating at least one scan line including spatio-temporal pixel values, each spatio-temporal pixel value being a combination of a spatially interpolated pixel value and a temporally interpolated pixel value~~

the received control command indicates to perform a spatial interpolation technique when a current field of the input interlaced scan data is one of preceded and followed by a field of a same type,

the received control command indicates to perform an alternate field output technique, in which two consecutive fields of the input interlaced scan data are alternately output on a scan line by scan line basis to produce a frame of progressive scan data, when the input interlaced scan data is frame based interlaced scan data, and

the received control command indicates to perform a

spatial/temporal interpolation IPC technique when the input interlaced

scan data is field based interlaced scan data.


7.  (Currently Amended)  The method of claim [[6]] 33, further comprising:

generating the control command to indicate the spatial interpolation

technique when [[a]] the current field of the input interlaced scan data is one of

preceded and followed by [[a]] the field of [[a]] the same type;

generating the control command to indicate the alternate field output

technique when the input interlaced scan data is frame based interlaced scan

data; and

generating the control command to indicate the spatial/temporal

interpolation IPC conversion technique when the input interlaced scan data is

field based interlaced scan data.


8. – 9.  (Canceled).


10.  (Currently Amended)  The converter of claim [[8]] 35, wherein

the spatial interpolation IPC technique performs spatial interpolation on

[[a]] the current field of the input interlaced scan data to produce a field of

complementary scan data that together with the current field represents a

frame of progressive scan data; and

the spatial/temporal interpolation IPC technique performs directionally adaptive spatial interpolation selectively combined with temporal interpolation using the current field and at least one previous field and at least one subsequent field of the input interlaced scan data to produce [[a]] the field of complementary scan data that together with the current field represents a frame of progressive scan data.

11. (Currently Amended) The converter of claim [[8]] 35, wherein the spatial/temporal interpolation IPC conversion technique is adaptive.

12. (Canceled).

13. (Currently Amended) The converter of claim [[8]] 35, wherein the conversion structure comprises:

an interpolator configured to interpolate lines of a frame of progressive scan data missing from [[a]] the current field of the input interlaced scan data by spatially interpolating the missing lines using the current field.

14. (Currently Amended) The converter of claim [[8]] 34, wherein the conversion structure is configured to supply the selector with the input interlaced scan data of [[a]] the current field and one of a preceding and following field of the input interlaced scan data.

15. (Currently Amended)  The converter of claim [[8]] 35, wherein the conversion structure comprises:

a spatial/temporal interpolator configured to perform [[a]] the spatial/temporal interpolation IPC conversion technique on the input interlaced scan data to produce a portion of the progressive scan data.

16. (Original)  The converter of claim 15, wherein the spatial/temporal interpolator is configured to perform adaptive spatial/temporal interpolation.

17. (Original)  The converter of claim 15, wherein the spatial/temporal interpolator is configured to perform directionally adaptive spatial interpolation.

18. (Currently Amended)  The converter of claim [[17]] 34, wherein the spatial/temporal interpolator is configured to directionally adapt the spatial interpolation based on a measure of a difference between pixels neighboring a pixel being interpolated.

19. (Original)  The converter of claim 15, wherein the spatial/temporal interpolator is configured to adapt the spatial/temporal interpolation based on a complexity of an image.

20. (Original) The converter of claim 15, wherein the spatial/temporal interpolator is configured to adapt the spatial/temporal interpolation to reduce an influence of the temporal interpolation as a change in an image over time increases.

21. (Currently Amended) The converter of claim [[8]] 35, wherein the conversion structure includes,

an interpolator configured to perform spatial interpolation on [[a]] the current field of the input interlaced scan data to produce a field of complementary scan data that together with the current field represents a frame of progressive scan data; and

a spatial/temporal interpolator [[is]] configured to perform directionally adaptive spatial interpolation selectively combined with temporal interpolation using the current field, at least one previous field and at least one subsequent field of the input interlaced scan data to produce a field of complementary scan data that together with the current field represents a frame of progressive scan data[[;]], the converter further including, [[and]]

[[the]] a selector [[is]] configured to receive an output of the interpolator, and an output of the spatial/temporal interpolator.

22. (Original) The converter of claim 21, wherein

the selector is configured to select the output from the interpolator as a portion of the progressive scan data when the current field of the input interlaced scan data is one of preceded and followed by [[a]] the field of [[a]] the same type;

the selector is configured to select data from the current field of the input interlaced scan data and data from one of a previous [[or]] and next field of the input interlaced scan data as the progressive scan data when the input interlaced scan data is frame based interlaced scan data; and

the selector is configured to select the output from the spatial/temporal interpolator as a portion of the progressive scan data when the input interlaced scan data is field based interlaced scan data.

23.  (Currently Amended)  The converter of claim [[12]] 34, further comprising:

a controller controlling the selector to select a scan data stream generated according to the spatial interpolation IPC technique when [[a]] the current field of the input interlaced scan data is one of preceded and followed by [[a]] the field of [[a]] the same type; to alternate outputting the current field and one of a previous and next [[a]] field one of preceding and following the current when the input interlaced scan data is frame based interlaced scan data; and to select the output from the spatial/temporal interpolator a scan data steam generated according to the spatial and temporal interpolation IPC technique when the input interlaced scan data is field based interlaced scan data.

24. - 31. (Canceled).

32. (Previously Presented)    An interlaced-to-progressive conversion method, comprising:

receiving, at an interlaced-to-progressive (IPC) converter, a control command to perform one of at least two interlaced-to-progressive conversion (IPC) techniques on input interlaced scan data; and

performing, by the interlaced-to-progressive (IPC) converter, the IPC technique instructed by the received control command on the input interlaced scan data; wherein

the control command indicates to perform a spatial interpolation IPC technique when a current field of the input interlaced scan data is one of preceded and followed by a field of a same type; and

the control command indicates to perform a spatial/temporal interpolation IPC technique when the input interlaced scan data is field based interlaced scan data.

33. (Currently Amended)    An interlaced-to-progressive conversion method, comprising:

receiving, at an interlaced-to-progressive (IPC) converter, a control command to perform one of at least two interlaced-to-progressive conversion (IPC) techniques on input interlaced scan data; and

performing, by the interlaced-to-progressive (IPC) converter, the IPC technique instructed by the received control command on the input interlaced scan data; wherein

the control command indicates to perform [[the]] a spatial interpolation technique when a current field of the input interlaced scan data is one of preceded and followed by a field of a same type,

the control command indicates to perform [[the]] an alternate field output technique, in which two consecutive fields of the input interlaced scan data are alternately output on a scan line by scan line basis to produce a frame of progressive scan data, when the input interlaced scan data is frame based interlaced scan data, and

the control command indicates to perform [[the]] a spatial/temporal interpolation IPC technique when the input interlaced scan data is field based interlaced scan data.

34. (Currently Amended) An interlaced-to-progressive (IPC) converter, comprising:

a conversion structure configured to generate different streams of scan data from input interlaced scan data, the different streams of scan data representing conversion of the input interlaced scan data into portions of progressive scan data according to different IPC conversion techniques; and

a selector configured to selectively output ~~outputting~~ the different streams of scan data as progressive scan data; wherein

the conversion structure includes,

an interpolator configured to perform spatial interpolation on a current field of the input interlaced scan data to produce a field of complementary scan data that together with [[the]] a current field represents a frame of progressive scan data, and

a spatial/temporal interpolator is configured to perform directionally adaptive spatial interpolation selectively combined with temporal interpolation using the current field, at least one previous field and at least one subsequent field of the input interlaced scan data to produce a field of complementary scan data that together with the current field represents [[a]] the frame of progressive scan data, and wherein

the selector is configured to,

select an output from the interpolator as a portion of the progressive scan data when the current field of the input interlaced scan data is one of preceded and followed by a field of a same type,

select data from the current field of the input interlaced scan data and data from one of a previous or next field of the input interlaced scan data as the progressive scan data when the input interlaced scan data is frame based interlaced scan data, and

select output from the spatial/temporal interpolator as a portion of the progressive scan data when the input interlaced scan data is field based interlaced scan data.

35. (New)   An interlaced-to-progressive converter comprising:

a conversion structure configured to perform an interlaced-to-progressive conversion (IPC) technique instructed by a received control command on input interlaced scan data; wherein

the control command indicates to perform a spatial interpolation IPC technique when a current field of the input interlaced scan data is one of preceded and followed by a field of a same type; and

the control command indicates to perform a spatial/temporal interpolation IPC technique when the input interlaced scan data is field based interlaced scan data.


36. (New)  An interlaced-to-progressive converter comprising:

a conversion structure configured to perform an interlaced-to-progressive conversion (IPC) technique instructed by a received control command on input interlaced scan data; wherein

the control command indicates to perform a spatial interpolation technique when a current field of the input interlaced scan data is one of preceded and followed by a field of a same type,

the control command indicates to perform an alternate field output technique, in which two consecutive fields of the input interlaced scan data are alternately output on a scan line by scan line basis to produce a frame of progressive scan data, when the input interlaced scan data is frame based interlaced scan data, and

the control command indicates to perform a spatial/temporal

interpolation IPC technique when the input interlaced scan data is field

based interlaced scan data.